edge about the lifestyles of the human groups at this exciting time.

6. Conclusions

The El Castillo cave site is one of the most important records of the Middle and Upper Palaeolithic on the Iberian Peninsula and indeed in Europe. The presence of a stratigraphy representing all stages of human presence dating back more than 300,000 years enables a wide range of working hypotheses to be tested, both historically and in other disciplines (palaeontology, climatology, etc.). Our studies have focused on the transition period from the Middle to the Upper Palaeolithic. They have contributed several aspects that challenge –and indeed will continue to challenge– current views. This confirms the importance of the site and the opportunities it presents.

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La Cueva de la Güelga. Cangas de Onís. Asturias

Introduction

La Cueva de la Güelga, whose name in the local language refers to wet and shady sites, opens to the heart of a limestone mountain valley, forming a *cul-de-sac*. A stream flows from the current cave aperture and has configurated a *karst* system with corresponding terrace drain caverns that were successively occupied during the Middle and Upper Paleolithic. This group of rock shelters and caves has been divided into different sectors for investigation, which has developed from 1989 to the present. *A-B* and C areas are located on the lower terrace, occupied during the Magdalenian and Solutrean. At the top is *D sector*, with occupations attributed to Châtelperronian, Aurignacian and Mousterian. This valley, closed in itself, has provided numerous lithic remains in surfaces, mostly attributable to Mode 3, surely exponents of intense and prolonged occupations. It is located 200 m above sea level, and along with Buxu and Azules caves, is a core site in the middle reaches of the Sella River, territorially linked with other coast sites, 15 km away, around the Ribadesella Bay (Menéndez, 2003).

Areas A, B and C (Upper Paleolithic): Located around the current cave entrance, they show remains of an intense Solutrean occupation swept by the river into the karst. The only evidence from the upper Solutrean, industry also present in neighboring Buxu Cave, are gap vestiges attached to the wall of the shelter and *in situ* layer (*Area* C), with notch points and concave bases. Also, A and C were excavated and assigned to Cantabrian Lower Magdalenian or Magdalenian III occupation, from the so-called *Juyofacies*. The lithic and especially the bone industry, display the existence of a group of hunters specialized in deer (55%), chamois (24%) and goats (20%), probably during the middle months of the year (spring / summer), which left at layer 3 an excellent collection of art mobilier. The hyoid hanging of deer must be highlighted, decorated assegai

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and bones emphasizing an adult deer tibia fragment, three heads of the same animal synchronously recorded, all done with fresh bone, but with very different styles and conventions. This occupation of the late Magdalenian is well dated, around to 14 key BP (Fig.1).

Figure 1. Engraved Magdalenian tibia.

Area D (Transition MP / UP): In the middle terrace, around11 m above the current stream bed, appears a cave entrance excavated since 2000, which was filled in by debris from a collapsed cornice that fell and formed a slope. Overall, nine archaeological layers were excavated inside the shelter, which we have called *D interior*. The result was a Châtelperronian – Aurignacian – Mousterian sequence, separated by periods of collapse and abandonment of the cavern (Quesada and Menéndez 2009). As stratigraphic variations in certain areas were observed and the Aurignacian interlayer was the utmost interest to the transition paradigm MP / UP, in 2005 a new excavation zone was determined to be opened on the outdoor terrace under the large blocks of the old collapsed shelter. This area, which has been called D exterior, provided intense Mousterian occupation. In 2012, in collaboration with the Neanderthal Museum in Mettmann and the University of Cologne (Germany), led by G-Ch.Weniger, micromorphological analysis of D zone was done on interior and exterior levels, to contrast them with the sedimentological results (Jordá *et al.*, 2013; Menéndez *et al.*, 2014). We will summarize the current geoarchaeological results and hypotheses in future work.

The geoarcheological *D sector* sequence from La Güelga comprises a series of levels generated by both anthropogenic and natural processes. These natural processes detected by the sedimentological analysis, highlight the gravitational collapse of large blocks, gelifraction and diffuse gullies of very low energy (Jordá Pardo *et al.*, 2013). The micromorphologic analysis of D interior area identifies features that indicate the nature *in situ* of both the Mousterian (L9) and Aurignacian (L5-L6) levels, whereas in the Châtelperronian levels (L1 and L2) the traits indicated were emplaced by processes of creep after a roof block fall and aren't significantly compacted by trampling. Chronological invertion seems to confirm this hypothesis.

D Interior: The sequence excavated so far consists of nine archaeological layers deposited in slope (Fig. 2), into the cave, under a strong surface layer (S1 and S2) (Quesada and Menéndez, 2009; Jordá *et al.*, 2013).

Châtelperronian (L1 and L2): Layers 1 and 2 form a sedimentological unit in slope into the cave interior. It was only useful for excavation 3.7 m^2. A flint laminar industry was found, having noted the presence of two Châtelperron points, and another assemblage of quartzite flakes, such as scrapers and denticulates. The presence of lithic manufactured the absence of bone artifacts and ^{14}C studies (Table 1) encouraged us to define this set as Châtelperronian, considering the possible underlying Aurignacian as an interstrafication. Recent dating of the lower level (L5) and sedimentological and microstratigraphic analysis carried out by the University of Cologne does not ensure that this level is *in situ*.

Under level 2 a fringe of stone blocks detached from the shelter and a layer of clay and silt appear from the outside. Levels 3 and 4 are almost sterile.

Aurignacian (L5 and L6): Under a line of stone blocks (L5) appears a clay layer (L6); shown *in situ* by the sedimentological and microstratigraphic analyses. This unit has provided a few anthropic remains, although very typical. The lithic assemblage, mostly laminar, is made on flint and quartzite. There are nosed scrapers, one Aurignacian blade and retouched flakes. Regarding bone industry, several flattened oval section awls were found, a moothed mesial fragment of assegai and one deer phalanx whistle. The chronology (pend-

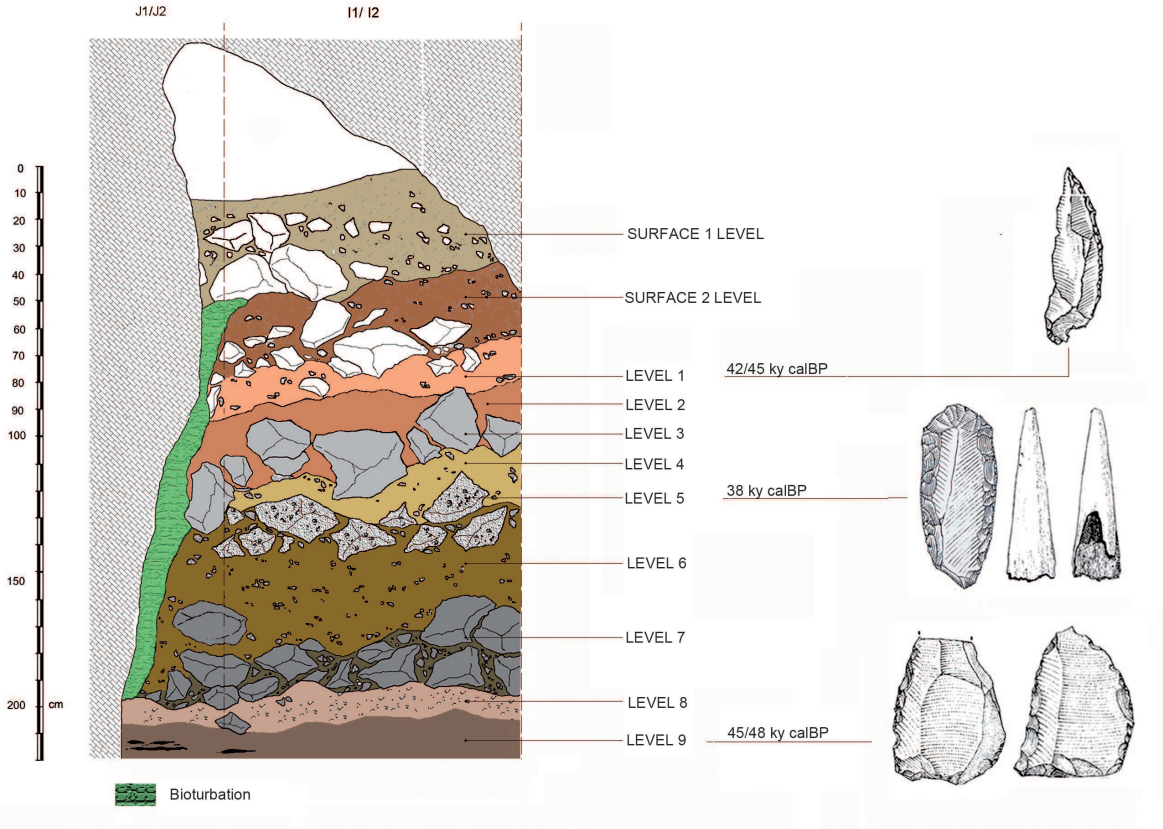

Figure 2. Overall stratigraphy of la Cueva de la Güelga.

ing new dates) places it into 38ky calBP. Despite the reduced sample, the homogeneity and conventional characters of the assemblage, the absence of contradictory elements, preliminary dating and stratigraphic position indicate an undoubted Aurignacian presence. Below this layer, a long period of cave abandonment (L7 and L8) is documented.

Mousterian: It is represented in D interior by level 9, showing intense human presence evident in combustion remains, wealth lithic industry (Mode 3), with Levallois pieces and animals bones with fleshing traces; as well as the possibility of setting spatial occupation patterns. This inside occupation matches on open air the terrace level with the 4B layer from ***D exterior.*** Both have provided a typically Mousterian lithic accumulation, consisting of local quartzite flakes retouched, denticulate and scrapers, as well as Levallois points. All phases of the operational chain are present, mostly discoid and also Levallois. Scarce flints remain, Piloña type show relationships with other sites, such as Sidrón cave in the same river basin. Premolar (15) and several human dental fragments, with Neanderthal morphology, were found. The ^{14}C dating with pretreatment by ultra filtration (OxA) places this occupation in the period 55/44 ky in OIS 3c, between H6 and H4 events (Menéndez *et al.*, 2009; Quesada and Menéndez, 2009; Jordá *et al.*, 2013). The fauna recovered, around 70,000 remains, show deer (66%) and chamois (31%) predominance, along with uncommon species and diverse ecosystems, such as mammoth (*Mammuthus primigenius*), panther *(P. pardus)*, megaloceros, rhino, wolf, boar, etc. suggesting a recurrent and prolonged use of the site by the Neanderthal populations of the River Sella basin.

Conclusions

1. The assignment Châtelperronian sediments (L1 and L2) are displaced. Their sedimento-

Zone	Level	Culture	Material	Procedure	Code	BP Date	Deviation	95% probability calibrate Date	
								CalPal 2007 Hulu	INTCAL 13
Indoor D	2	¿Châtelperronian?	Bone with marks	AMS + untrafiltration	COL2014	37429	302	42780 –41460 calBP	42320 –41400 calBP
Indoor D	2	¿Châtelperronian?	Bone with marks	AMS + untrafiltration	OxA-27958	40300	1200	45910 –42070 calBP	45890 –42090 calBP
Indoor D	5	Aurignacian	Bone with marks	AMS + untrafiltration	Beta-377233	33610	220	41730 –35570 calBP	38720 –37200 calBP
Indoor D	9	Mousterian	Bone with marks	AMS + untrafiltration	OxA-19244	43700	800	49020 –44540 calBP	48740 –45300 calBP
Indoor D	9	Mousterian	Bone with marks	AMS + untrafiltration	OxA-19245	44300	1200	50660 –44380 calBP	Out range calibration
Outdoor D	4b	Mousterian	Bone with marks	AMS + untrafiltration	OxA-20122	47400	2700	Out range calibration	Out range calibration
Outdoor D	4b	Mousterian	Bone with marks	AMS + untrafiltration	OxA-20123	>43200			
Outdoor D	4b	Mousterian	Bone with marks	AMS + untrafiltration	OxA-20124	48500	3500	Out range calibration	Out range calibration
Outdoor D	4b	Mousterian	Bone with marks	AMS + untrafiltration	OxA-20125	>43600			

Table 1. Datations of Cueva de la Güelga

logical quality is not enough to defend such a significant hypothesis as interlayer Aurignacian. Future work should pursue an explanation for their stratigraphic position and timing (42/45 ky calBP).

2. There is an Aurignacian presence, with little information, but with a timeline around 38 ky calBP, before an intense Mousterian occupation (45/48 ky calBP).
3. There is a long period of abandonment between Aurignacian and Mousterian occupations (7/10 ky).
4. The lower Magdalenian occupation provided an excellent collection of portable art.

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PLEISTOCENE AND HOLOCENE HUNTER-GATHERERS IN IBERIA AND THE GIBRALTAR STRAIT:

THE CURRENT ARCHAEOLOGICAL RECORD

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